

IN THE CLAIMS:

The following is a complete listing of the claims in this application, reflects all changes currently being made to the claims, and replaces all earlier versions and all earlier listings of the claims:

Claim 1. (Currently Amended) A solid state image pickup apparatus comprising a photodetecting device and one or more thin film transistors connected to said photodetecting device formed in one pixel, wherein a part of said photodetecting device is formed over at least a part of said thin film transistor, and wherein said thin film transistor comprises a source electrode, a drain electrode, a first gate electrode, and a second gate electrode arranged on the side opposite to said first gate electrode with respect to the source electrode and the drain electrode, and wherein the first gate electrode and the second gate electrode are connected to a common gate wiring.

Claim 2. (Currently Amended) A solid state image pickup apparatus according to claim 1, wherein said thin film transistor is a double gate type thin film transistor comprising at least said first gate electrode, an insulating layer, a semiconductor layer, a semiconductor layer having an impurity doped, said source and drain electrodes, an insulating layer, and said second gate electrode which are sequentially formed onto an insulating substrate.

Claim 3. (Currently Amended) A solid state image pickup apparatus according to claim 1 ~~[[or 2]]~~, wherein

said second gate electrode covers at least a part of a gap portion between said source electrode and said drain electrode.

Claim 4. (Currently Amended) A solid state image pickup apparatus according to ~~any one of claims~~ claim 1 ~~[[to 2]]~~, wherein

either said source electrode or said drain electrode is connected to a transfer wiring connected to a signal processing circuit, and said second gate electrode does not two-dimensionally overlap either the source electrode or the drain electrode connected to the transfer wiring.

Claim 5. (Currently Amended) A solid state image pickup apparatus according to ~~any one of claims~~ claim 1 ~~[[to 2]]~~, wherein

said second gate electrode and said first gate electrode are connected to one gate driver circuit by a gate wiring and controlled by the gate driver circuit.

Claim 6. (Currently Amended) A solid state image pickup apparatus according to ~~any one of claims~~ claim 1 ~~[[to 2]]~~, wherein

said second gate electrode is formed as a film simultaneously with an electrode material constructing said photodetecting device.

Claim 7. (Currently Amended) A solid state image pickup apparatus according to ~~any one of claims~~ claim 1 [[to 2]], wherein

said photodetecting device is constructed by at least an insulating layer, a semiconductor layer, and a semiconductor layer having an impurity doped c.

Claim 8. (Currently Amended) A solid state image pickup apparatus according to ~~any one of claims~~ claim 1 [[to 2]], wherein

said photodetecting device is constructed by at least a first semiconductor layer having an impurity doped, a semiconductor layer, and a second semiconductor layer having an impurity doped of a conductivity type opposite to that of said first semiconductor layer having a impurity doped.

Claim 9. (Currently Amended) A radiation image pickup apparatus wherein said photodetecting device of the solid state image pickup apparatus according to ~~any one of claims~~ claim 1 [[to 2]] is a radiation detecting device for directly and photoelectrically converting a radiation.

Claim 10. (Currently Amended) A radiation image pickup apparatus wherein a wavelength converter is arranged onto said photodetecting device of the solid state image pickup apparatus according to ~~any one of claims~~ claim 1 [[to 2]].